

ABSTRACT

Methods and apparatuses for estimating periodic worst-case delay for a class of traffic.

An aggregate (i.e., a class or label on which traffic is classified and queued) has an associated bandwidth ("negotiated rate"), which typically is a maximum average bandwidth that has been

5 agreed upon by the traffic generator ("customer") and service provider. Delay for an aggregate is obtained by summing all the delays of class queues of each router in the path.

Traffic data for the aggregate is collected. A burst-rate profile is calculated for the traffic data, with the rate parameter set to the value of the negotiated rate. A periodic worst-case delay estimate associated with the burst-rate profile is calculated, using the output link

10 capacity allotted to the aggregate ("allocated bandwidth") as input.